

CIRCULAR No. 103
(JUNE, 1913)

CHEMICAL ANALYSES OF WATERS

Owing to the diverse character of the sources of water supply and the extensive occurrence of alkali in the waters of California, the Agricultural Experiment Station is prepared, as a part of its public service, to furnish free chemical analyses of water for irrigation and domestic purposes, to rural consumers, but to this class of persons only. The analysis made is adapted to this particular purpose, it is not a complete chemical analysis, and the reports are purposely framed to prevent their use for advertising purposes. For this latter service, applicants are advised to secure fuller examinations and more complete reports from a commercial chemist.

Ordinarily the examination will consist *only* of a mineral analysis designed to determine the suitability of the water for irrigation and domestic purposes. This will *in proper cases only* be supplemented by the so-called "sanitary chemical analysis," to determine the probability or lack of probability of the water having become contaminated by animal matter or sewage. **Under no circumstances will we examine waters for bacteria and disease producing organisms. Where specific infectious diseases, typhoid, dysentery, etc., have appeared and the water supply is suspected, applications for assistance should be made to the Secretary of the State Board of Health, Sacramento, California.**

HOW TO OBTAIN ANALYSES

If, on reading the above, you find that you are entitled under our regulations to an analysis, that the analysis furnished is the kind you desire, and you are willing to comply with all of our conditions, you may fill out and forward the attached certificate. On receipt of the certificate, properly made out, we will forward you one of our packed sample bottles by express C.O.D. You will then fill the bottle in accordance with our directions and forward by express prepaid.

TIME OF TAKING SAMPLES

Samples should in all cases be shipped at such a time as to reach Berkeley on Tuesday morning and the bottle should be filled as short a time before shipment as possible. We reserve the right to refuse

to analyse samples which arrive on any other day than Tuesday or are more than forty-eight hours old. These requirements are to enable us to render prompt service and to avoid those changes which are likely to take place in certain classes of waters.

DIRECTIONS FOR SAMPLING

Do not close the spring lock of the sample case until bottle is filled and replaced.

Do not rinse out the bottle as it is already perfectly clean.

Do not remove bottle from case nor the stopper from bottle till just before filling.

Do not touch the inside of the neck of the bottle nor the stem of the stopper.

Hold stopper by the outer end or handle while filling the bottle.

To fill: *From a tap, spigot, or hydrant.*—Allow the water to run for fully ten minutes before collecting, then remove stopper and fill the bottle to a point about one inch below the base of neck.

From a river, pond, reservoir, or basin.—Lower the bottle, with the stopper in place, into the water to a depth of twelve inches below the surface, remove the stopper, allow the bottle to fill completely and replace the stopper before bringing to the surface, to avoid collecting any scum. When brought to the surface, pour out a small quantity so that the sample shall fill the bottle to a point one inch below the base of neck. If the water is shallow, collect the running water in a clean vessel and pour into bottle. Precautions must always be taken not to stir up any sediment.

After filling secure the stopper in its place by tying on the cloth cap attached to bottle.

Before closing the box, fill out and return card to the envelope in top of sample case.

SHIPPING THE SAMPLE CASE

Close box, placing padlock in place and snapping the spring lock. Remove the pasteboard address card bearing your name, when our printed address will appear. Send by express prepaid as soon as practicable after taking sample.

CERTIFICATE TO BE FILLED OUT

On the following leaf is the certificate to be filled out. It may be detached and used as such.

CERTIFICATE FOR ANALYSIS

*Division of Agricultural Chemistry,
Agricultural Experiment Station,
University of California,
Berkeley, California.*

This is to certify that the sample of water which I propose sending you for analysis will be taken and forwarded in exact accordance with your directions; that I will pay the express charges on the empty container from Berkeley to my address and on the full container from my address to Berkeley; and that it is not my intention to use the analysis for advertising purposes.

I further certify that the following answers to your questions are true to the best of my knowledge and belief.

Location of place of drawing? (To be in accordance with United States Land Office description if possible, otherwise distance and direction from some well-known place).

Character and name (if any) of body of water. (River, creek, lake, pond, well?)

In case of flowing waters.—What is the seasonal variation of flow, and distance of other users from the stream?

In case of a well.—Is it dug, bored, or driven, and how is the top protected. What is the depth *to* water, depth *of* water, and amount supplied?

In case of ponds or lakes.—State size, depth, etc.

Give the distance of the water supply from the most probable of the possible sources of contamination, such as cesspools, outhouses, barns, kitchens, etc.

Does the land drain from any such source of pollution toward the water supply? If so, describe the so-called "lay of the land" (topography).

State for which of the following purposes you propose using the water: Drinking, washing, boiler, watering stock, irrigation.

Have you used this water heretofore, and if so, have you observed that it has any peculiar properties or effects?

Further remarks:

(Signature)

(P.O. address)

(Date)

(Signature of Witness when convenient)

Please note that the interpretation of the analysis depends upon the facts requested and that without the interpretation the analysis will be valueless to you.

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